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24978 7590 04/15/2009 GREER, BURNS & CRAIN 300 S WACKER DR 25TH FLOOR CHICAGO, IL 60606				
EXAMINER KASRAIAN, ALLAHYAR				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/525,696

**Applicant(s)**

CRUZ ET AL.

**Examiner**

ALLAHYAR KASRAIAN

**Art Unit**

2617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 December 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-17, 19-24, 26 and 27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-10, 12-15, 19-21, 23, 24 and 26 is/are rejected.
- 7) ☒ Claim(s) 5, 11, 16, 17 and 22 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 December 2008 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Remarks***

1. The present Office Action is in response to Applicant's amendment filed on 12/11/2008. **Claims 1-17, 19-24, 26 and 27** are now pending in the present application.

**This Action is made FINAL.**

2. The objection to the drawing is withdrawn. The replacement-drawing sheet was received on 12/11/2008 and acknowledged by the Examiner.

3. The "amendments to the specification" received on 12/11/2008 is acknowledged by the Examiner.

### ***Response to Arguments***

4. Applicant's arguments filed on 12/11/2008 have been fully considered but they are not persuasive.

On the third paragraph of page 19 of the Applicant's arguments/remarks with respect to claims 8 and 9, Applicant argues the feature of claim 8, "the vector determines the duty cycle of the transmission modes that are scheduled" is properly described and defined on page 12, lines 7-14 and page 13, lines 26. Examiner respectfully disagrees with applicant since there is no disclosure for "[the] vector determines the duty cycle of the transmission modes that are scheduled". Applicant, asserts that solving the equations described on page 12 lines 7-14 leads to determine the duty cycles. However, there is no solution to the indicated equations is offered to

determine the duty cycles and then to conclude, "the vector determines the duty cycle of the transmission modes that are scheduled". From page 13, line 23 to page 14, line 4, of the specification, it is stated, "duty cycles of each transmission modes in an optimal scheduling policy can be calculated by formulation of the problem as a linear program. Alternatively, using a dual optimization approach, we can first identify a relatively small set of transmission modes that comprise an optimal scheduling policy." However, there is nothing is stated with regards to a vector determines the duty cycle of the transmission modes that are scheduled. If the claimed subject matter can be concluded by solving the indicated equations it should be clearly stated clearly based on one's knowledge skilled in the art.

Therefore, claims 8 and 9 are still rejected under 35 U.S.C. § 112, first paragraph.

On the second paragraph of page 20 of the Applicant's arguments/remarks with respect to claim 1, Applicant argues, "Attar, however makes no reference to identifying a signal-to-interference-and-noise *ratio for each possible transmission mode*. As described in the present application, the claimed method for scheduling communications considers changing parameters based on each possible transmission mode." Examiner respectfully disagrees with Applicant since Attar clearly disclosed the feature of the specific limitation of par. 0040, "the access terminal 104 calculates a quality metric of the access point's forward link, which may comprise a signal-to-interference and-noise ratio (SINR)... The access terminal 104 searches for other access points and determines access points' SINR. Simultaneously, the access terminal

104 calculates a quality metric of a forward link for each access point in the access terminal's 104 active set. If the forward link quality metric from a particular access point is above a predetermined add threshold or below a predetermined drop threshold for a predetermined period of time, the access terminal 104 reports this information to the access point 100". Moreover, par. 0042-0043 describe the features of the claimed such as, "scheduling communications considers changing parameters based on each possible transmission mode".

Therefore, claim 1 is rejected are rejected under 35 U.S.C. § 102(e) as being anticipated by Attar.

On the first paragraph of page 20 of the Applicant's arguments/remarks with respect to claim 19, Applicant argues, "no particular set of modes is determined by minimizing any parameter. In the present invention, the set of transmission modes is determined by minimizing a parameter, namely a weighted sum of expended transmission power." Examiner respectfully disagrees with Applicant since the indicated features are specifically pointed out on par. 0147-0148 and 0192.

Therefore, claim 19 is rejected are rejected under 35 U.S.C. § 102(e) as being anticipated by Agee.

On the second paragraph of page 21 of the Applicant's arguments/remarks with respect to claim 20, Applicant argues, "Zoumtos does not disclose or suggest at least the feature of 'determining a traffic matrix that specifies the rate of information transport between each pair of nodes in the network' as described in claim 20... The matrix described in claim 20 contains data about the information transport rate between a pair

of nodes in the network and has nothing to do with beamforming between a router and a node." Examiner notes the features of the claimed limitation is described on par. 0289 and 0196-0197. Applicant, Further argues, "since Zoumtos does not disclose a traffic matrix as described above, the reference also fails to disclose the step of 'setting an initial routing of traffic on said links of the network in order to support the traffic matrix determined in said step of determining a traffic matrix'." Examiner respectfully disagrees with Applicant since Zoumtos discloses the features of the claimed limitation on par. 0196-0197 and 0205.

On the first paragraph of page 22 of the Applicant's arguments/remarks with respect to claim 20, Applicant argues, "While Zoumtos does disclose such data, there is no computation of a sensitivity of links indicator, which provides information on the degree to which a particular change of data rate affects the link." Examiner respectfully disagrees with the Applicant and considers the computation of a sensitivity of links indicator as measurement of the SNIRs as disclosed on par. 0293.

On the second of page 22 of the Applicant's arguments/remarks with respect to claim 20, Applicant argues, "while Zourmtos discloses the adjustment of power, it does not disclose the adjustment of the actual routing of traffic using sensitivity links as recited in claim 20." Examiner respectfully disagrees with Applicant since the features of the claimed limitation are also indicated on par. 0414.

Therefore, claim 20 is rejected are rejected under 35 U.S.C. § 102(e) as being anticipated by Zoumtos.

On the first paragraph of page 23 of the Applicant's arguments/remarks with

respect to claim 26, Applicant argues, "Zoumtos however, sets forth the object of minimizing power subject to a minimum signal-to-interference-plus-noise ratio (not a data rate)." Examiner respectfully disagrees since Zoumtos clearly disclose the claimed subject on par. 0257, "Power control allows the system to adjust the RF transmit power of various nodes in the network, depending on the required data rates and the transmitter-receiver separations"; and 0267, "Depending on user data-rate requirements, the system can assign different users to two different modes of operation: Power Control (PC) mode, and Adaptive Spatial Division Multiplexing (ASDM) mode. In PC-mode, the system minimizes the transmit power on each of the user's spatial channels subject to a minimum required SINR at the receiver. This mode minimizes the interference generated by the user, but limits achievable data rates. In ASDM-mode, the system maximizes data rates on each of the user's spatial channels, subject to a minimum SINR at the receiver. This mode produces more interference but allows the user to achieve higher data rates."

Therefore, claim 26 is rejected are rejected under 35 U.S.C. § 102(e) as being anticipated by Zoumtos.

***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. **Claims 8 and 9** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which

was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Consider **claim 8**, the definition of “the vector determines the duty cycle of the transmission modes that are scheduled” is not specifically defined in the specification. Examiner interprets the claim as, “The method of claim 1, wherein said step of determining determines a vector whose dimensionality is equal to the number transmission modes in the subset.”

**Claim 9** is also rejected by the virtue of their dependency on **claim 8**.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless – (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. **Claims 1-4 and 15** are rejected under 35 U.S.C. 102(e) as being anticipated by **Attar et al. (US Patent Application Pub. # 20040038697)** (hereinafter Attar).

Consider **claim 1**, Attar discloses a method for scheduling communication in a wireless communications network, the network having a plurality of nodes, the method comprising steps of:

measuring channel parameters between arbitrary nodes in the wireless



communications network (FIG. 1 par. 0041 and 0068);

for each possible transmission mode, identifying a signal to interference plus noise ratio based upon the measured channel parameters (par. 0040, consider transmission mode as forward links from different access points);

mapping the signal to interference plus noise ratio into a data rate for the transmission modes (par. 0041, 0043); and

from a subset of transmission modes that result from the step of mapping, determining which of all of the transmission modes are may be scheduled for one of to meet minimum data rate constraints between links and minimize total average power, or to maximize total throughput while meeting a maximum power constraint on each link in the network (par. 0029, 0040, 0043, 0078-0079, 0140, 0169-0172, 0178, the subset of transmission modes could be considered as forward/reverse link from access point 100 or 102 t/from access terminal 104).

Consider **claim 2 as applied to claim 1 above**, Attar discloses step of measuring measures channel parameters between all nodes in the wireless communication network (par. 0039).

Consider **claim 3 as applied to claim 1 above**, Attar discloses said step of measuring measures channel parameters between a subset of all of the nodes in the communication network, including nodes having no communication link at the time of measuring (par. 0039).

Consider **claim 4 as applied to claim 1 above**, Attar discloses said step of determining comprises: applying a linear program constrained by the minimum data rates between links and the transmitting power of nodes (par. 0041-0043).

Consider **claim 15 as applied to claim 1 above**, Attar discloses carried out by a node in the network (FIG. 1 par. 0029, 0041-0042).

9. **Claim 19** is rejected under 35 U.S.C. 102(e) as being anticipated by **Agee (US Patent Application Pub. # 20040095907)**.

Consider **claim 19**, Agee discloses a method for scheduling communication in a wireless communications network, the network having a plurality of nodes, the method comprising steps of:

measuring channel parameters between arbitrary nodes in the wireless communications network (0071);

determining a set of transmission modes, each transmission mode in specifying a state of operation for links of the network, said step of determining being conducted by minimizing a weighted sum of expended transmission powers across the links of said network in view of the channel parameters measured in said step of measuring, such that each link in the network achieves a predetermined minimum data rate (abstract, par. 0071, 0138, 0147-0148, 0186, 0192).

10. **Claims 20, 21, 23, 24, and 26** are rejected under 35 U.S.C. 102(e) as being anticipated by **Zourntos et al. (US Patent Application Pub. # 20030100343)** (hereinafter Zourntos).

Consider **claim 20**, Zourntos discloses a method for routing information through a wireless communication network, the network having a plurality of nodes and a plurality of potential links between the nodes, the method comprising steps of:

determining a traffic matrix that specifies the rate of information transport between each pair of nodes in the network (par. 0289, 0196-0197);

setting an initial routing of traffic on said links of the network in order to support the traffic matrix determined in said step of determining a traffic matrix (FIG. 14, par. 0196-0197, 0205);

determining required data rates on the links of the wireless communication network for the initial routing of traffic set in said step of setting (par. 0196-0197, 0289, 0296);

computing a sensitivity of links in response to change of data rate (par. 0293, 0297, 0359);

iteratively adjusting the routing of traffic using the sensitivity of links so that the weighted sum of expended transmission powers across the links of the network is reduced and repeating said steps of determining and computing (par. 0257, 0267, 0414).

Consider **claim 21 as applied to claim 20 above**, Zourntos discloses said step of computing computes a sensitivity parameter for all links in the network (par. 0293, 0296, 0359).

Consider **claim 23 as applied to claim 20 above**, Zourntos discloses said step of computing computes sensitivity for a subset of links in the network (par. 0223, 0293, 0296, 0359).

Consider **claim 24 as applied to claim 20 above**, Zourntos discloses said step of iteratively adjusting and repeating is repeated until the weighted sum of expended transmission powers does not significantly change in response to adjusting the routing (par. 0267, 0414).

Consider **claim 26**, Zourntos discloses a method for scheduling transmission of information through a wireless communication network, the network having a plurality of nodes and a plurality of potential links between the nodes, the method comprising steps of

measuring channel parameters between arbitrary nodes in the wireless communications network (par. 0293);

determining a set of transmission modes for the wireless communication network while accounting for the channel parameters measured in said step of measuring, wherein each transmission mode in the said set specifies a state of operation for the

communication links of said network, with the objective of one of minimizing a numerical value determined by power expended on links of the wireless communication network, such that prespecified data rates on links of said network can be achieved by use the set of transmission modes, or maximizing a weighted sum of data rates across the links of said network, and such that the power consumed by each transmitter is no greater than a predetermined maximum value (par. 0257, 0267, 0414).

***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the Examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the Examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

12. **Claims 6-9** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Attar et al. (US Patent Application Pub. # 20040038697)** (hereinafter Attar) in view of **Agee et al. (US Patent Application Pub. #20040095907)** (hereinafter Agee).

Consider **claim 6 as applied to claim 1 above**, Attar discloses said step of determining determines the links that define a transmission mode (par. 0040-0041),

However, Attar fails to explicitly disclose the duty cycle for each transmitting node in the transmission mode.

In the same field of endeavor, Agee discloses the duty cycle for each transmitting node in the transmission mode (par. 0259).

Therefore, it would have been obvious to a person of ordinary skills in the art at the time the invention was made to incorporate the duty cycle for message transmission and reception of a link as taught by Agee to the links for transmission mode as disclosed by Attar for purpose of lowering the processing imbalance which otherwise might be created between transmission and reception modes.

Consider **claim 7**, Attar as modified by Agee disclose the claimed invention as **applied to claim 6 above**, in addition Attar discloses a transmission mode determined in said step of determining further comprises a transmission power and data rate for

each of the links (0041).

Consider **claim 8 as applied to claim 1 above**, Attar discloses the claimed invention except said step of determining determines a vector whose dimensionality is equal to the number transmission modes in the subset, wherein the vector determines the duty cycle of the transmission modes that are scheduled.

In the same field of endeavor, Agee discloses said step of determining determines a vector whose dimensionality is equal to the number transmission modes in the subset, wherein the vector determines the duty cycle of the transmission modes that are scheduled (par. 0192).

Therefore, it would have been obvious to a person of ordinary skills in the art at the time the invention was made to incorporate a transmit vector based on a partial linearization of the network quality metrics as taught by Agee to the network disclosed by Attar for purpose of either minimize the total transmit power in the entire network subject to a network quality constraint, preferentially capacity, or maximize network quality, preferentially capacity, subject to a total transmit power constraint.

Consider **claim 9 as applied to claim 8 above**, Agee further discloses a minimum specified data rate on each link is a constraint on the vector that is incorporated in a linear program to minimize the total transmission power (par. 0192 and 0152).

13. **Claim 10** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Attar et al. (US Patent Application Pub. # 20040038697)** (hereinafter Attar) in view of **Amadon et al. (US Patent # 7020147)** (hereinafter Amadon).

Consider **claim 10 as applied to claim 1 above**, Attar discloses the claimed invention except said step of determining comprises application of a convex duality calculation.

In the same field of endeavor, Amadon discloses said step of determining comprises application of a convex duality calculation (col. 10, lines 21-33).

Therefore, it would have been obvious to a person of ordinary skills in the art at the time the invention was made to incorporate a convex duality theory as taught by Amadon to the network disclosed by Attar for purpose of optimize data packet traffic in a data communication system.

14. **Claims 12-14** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Attar et al. (US Patent Application Pub. # 20040038697)** (hereinafter Attar) in view of **Ogier (US Patent Application Pub. # 20030095504)**.

Consider **claim 12 as applied to claim 1 above**, Attar discloses the claimed invention except applying in a hierarchal manner and carried out on a cluster of links, further comprising the steps of dividing a set of links into clusters, and carrying out said steps of measuring and determining for each cluster.



In the same field of endeavor, Ogier discloses applying in a hierarchal manner and carried out on a cluster of links, further comprising the steps of dividing a set of links into clusters, and carrying out said steps of measuring and determining for each cluster (Fig. 1 par. 0130, 0191).

Therefore, it would have been obvious to a person of ordinary skills in the art at the time the invention was made to incorporate a hierarchical manner and cluster links as taught by Ogier to the network management method disclosed by Attar for purpose of dividing network in hierarchical model.

Consider **claim 13 as applied to claim 6 above**, Ogier discloses inter-cluster interference is modeled as static ambient noise (0004, 0130).

Consider **claim 14 as applied to claim 13 above**, Ogier discloses interaction between clusters is modeled with a fixed-point equation that determines the level of inter-cluster interference (0130).

15. **Claim 27** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Zourntos et al. (US Patent Application Pub. # 20030100343)** (hereinafter Zourntos) in view of **Agee et al. (US Patent Application Pub. #20040095907)** (hereinafter Agee).

Consider **claim 27 as applied to claim 26 above**, Zourntos discloses the claimed invention except said step of determining includes determining a duty cycle for

each transmission mode in the set of transmission modes determined in said step of determining.

In the same field of endeavor, Agee discloses said step of determining includes determining a duty cycle for each transmission mode in the set of transmission modes determined in said step of determining (par. 0259).

Therefore, it would have been obvious to a person of ordinary skills in the art at the time the invention was made to incorporate the duty cycle for message transmission and reception of a link as taught by Agee to the links for network with transmission mode as disclosed by Zourmtos for purpose of lowering the processing imbalance which otherwise might be created between transmission and reception modes.

***Allowable Subject Matter***

16. **Claims 5, 11, 16, 17 and 22** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

17. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

18. Any response to this Office Action should be **faxed to (571) 273-8300 or mailed to:**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**Hand-delivered responses** should be brought to

Customer Service Window  
Randolph Building  
401 Dulany Street  
Alexandria, VA 22314

19. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Allahyar Kasraian whose telephone number is (571) 270-1772. The Examiner can normally be reached on Monday-Thursday from 8:00 a.m. to 5:00 p.m.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Rafael Pérez-Gutiérrez can be reached on (571) 272-7915. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 571-272-4100.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

*/Allahyar Kasraian/  
Examiner, Art Unit 2617*

A.K./ak

*/Rafael Pérez-Gutiérrez/  
Supervisory Patent Examiner, Art Unit 2617*

April 3, 2009